



GIPPSLAND LAKES OCEAN ACCESS

Environmental Management Plan

**Gippsland Ports
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GLOA Environmental Management Plan

Document revision

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Version 4.3 draft – October 2019

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Table of contents

1	Introduction.....	4
1.1	Scope	4
1.2	Program Description	4
1.3	Environmental Policy.....	9
1.4	Environmental Management Plan Overview	9
2	Planning	10
2.1	Legal Requirements	10
2.2	GLOA Project Delivery Standards	10
2.3	External notification and reporting requirements	11
2.4	Risk Management	12
2.5	Organisational structure and responsibility	12
2.6	Document and record control.....	13
2.7	Gippsland Ports' change management arrangements	13
2.8	Training and awareness.....	13
2.9	Communication	13
2.10	Emergency preparedness, response and recovery	14
3	Measurement and evaluation	14
3.1	Incident reporting and investigation	14
3.2	Audits	15
3.3	Monitoring of environmental performance	15
3.4	Timing contingency for monitoring activities	15
4	Review and Reporting	15
4.1	Maintenance dredging program management review and report.....	15
	Annexure 1 - Environmental Policy	17
	Annexure 2 – Incident / Hazard Report	19
	Annexure 3 - Project Delivery Standards	21
	Annexure 4 - Monitoring Programs & Contingency Plans	30
	Annexure 5 - Response Processes	32

Figures

Figure 1: Dredging areas.....	5
Figure 2: Elements of the Sand Transfer System	6
Figure 3: Location of Dredged Material Grounds for TSHD	7
Figure 4: Dredging and disposal locations for the SCD	Error! Bookmark not defined.
Figure 5: Rigby Island Buffer Zone.....	8
Figure 6: Gippsland Ports indicative organisational structure	12
Figure 7: Heritage (marine based) response process flowchart	32
Figure 8: Complaints response process flowchart	33

Tables

Table 1: Coordinates for Dredged Material Grounds for TSHD.	7
Table 3: Key legislation and associated GLOA PDS	10
Table 4: External notification and reporting requirements.....	11
Table 5: Operational management (all activities and areas) PDS	21
Table 6: Marine-based works (all areas) PDS.....	23
Table 7: Dredging and plume PDS.....	25
Table 8: Dredging schedule PDS	26
Table 9: Dredged material management PDS	27
Table 10: Dredging Summary	28
Table 11: Key seasonal sensitivities and preferred seasons	29
Table 12: SEPP-N1 Time period classifications	30
Table 13: Management actions - Airborne noise	31
Table 14: Management actions - complaints response.....	32

Abbreviations

CD	Chart Datum
CSD	Cutter Suction Dredge
DMG	Dredged Material Ground
DAW	Department of Agriculture and Water Resources
DEE	Department of the Environment and Energy
DELWP	Department of Environment, Land, Water and Planning
DoT	Department of Transport for Victoria
EMP	Environmental Management Plan
GLOA	Gippsland Lakes Ocean Access
GP	Gippsland Ports
IMO	International Maritime Organisation
LTMMMP	Long Term Monitoring and Management Plan
MDP	Maintenance Dredging Program
SCD	Side Casting Dredge
SEMP	Safety and Environment Management Plan
STS	Sand Transfer System or Sand Transfer Station
TACC	Technical Advisory and Consultative Committee
TSHD	Trailing Suction Hopper Dredge

1 Introduction

1.1 Scope

The Environmental Management Plan (EMP) details the environmental management requirements to be followed for Gippsland Lakes Ocean Access (GLOA) activities.

This EMP includes:

- the requirements for environmental management during the planning, implementation, evaluation and review of dredging activities;
- the responsibilities for implementing this EMP; and
- the project delivery standards (PDS) including environmental controls and limits to ensure that project objectives and targets are achieved.

This EMP applies to the maintenance dredging works described below. GP has overall responsibility for the implementation of GLOA activities in accordance with the requirements of this EMP.

1.2 Program Description

In order to maintain navigable waters between the Port of Gippsland Lakes and Bass Strait, Gippsland Ports must conduct maintenance dredging at Lakes Entrance in the Inner Channels and the Bar. For over 30 years to 2008 this has been undertaken using a side casting dredge (SCD) *April Hamer*. However, it became apparent that this approach could not keep up with the accumulating sands and in 2005 the Victorian Government announced the Lakes Entrance Sand Management Program. One aspect of this program was the trial use of the Trailing Suction Hopper Dredge (TSHD) in 2008, 2009 and 2010 with placement of dredge material at Dredge Material Grounds (DMGs) along the coast outside the entrance. TSHD maintenance dredging with the Van Oord Australia vessel *Pelican* has also occurred from 2011 until 2016 under the GLOA program. From 2017 maintenance dredging has been conducted using the Gippsland Ports owned TSHD *Tommy Norton*. This is consistent with Gippsland Ports continuous improvement approach to the delivery of safe navigation to the Gippsland Lakes, and is supported and funded by the Victorian Government.

Key activities associated with the GLOA program are:

- Trailing Suction Hopper Dredge (TSHD) – a TSHD (*Tommy Norton*) has been purchased by Gippsland Ports to undertake continuous year round maintenance dredging. .
- Cutter Suction Dredge (CSD) to maintain navigable profile of the inner channels (Swing Basin, The Narrows, Cunninghame Arm, Hopetoun Channel and North Arm) (see Figure 1: Dredging areas).
- The Sand Transfer System (STS) associated with the CSD dredging (see Figure 2: Elements of the Sand Transfer System) comprising operation and maintenance of:
 - a pump house called the Sand Transfer Station (STS) located at Flagstaff.
 - transfer pipelines and riser to bring dredge slurry from the CSD to the STS.
 - a pipeline and near-shore discharge to deliver pumped material to Ninety Mile Beach about one kilometre east of the Entrance.
 - a pipeline and near-shore discharge to deliver pumped material to Ninety Mile Beach about one kilometre west of the Entrance.
- Placement of dredge material in one of two identified Dredge Material Grounds outside the entrance for the TSHD (Figure 3: Location of Dredged Material Grounds for TSHD).

The areas to be dredged in order of priority (generally indicating frequency of dredging) are the Bar (Zone 1), Entrance Channel and Swing Basin (Zone 2) and the inner channels (Zone 3) as shown in Figure 1. A TSHD will not be used in North Arm or Hopetoun Channel.



Figure 1: Dredging areas





Figure 2: Elements of the Sand Transfer System

Table 1: Coordinates for Dredged Material Grounds for TSHD.

CORNER	Western Dredged Material Ground		Eastern Dredged Material Ground	
	Longitude	Latitude	Longitude	Latitude
North-west	147°56.17616E	37°54.12'S	147°59.43972'E	37°53.26315'S
South-west	147°56.2776'E	37°54.3274'S	147°59.53999'E	37°53.46463'S
South-east	147°57.44375'E	37°53.72533'S	148°00.70888'E	37°52.86686'S
North-east	147°57.53540'E	37°53.92621'S	148°00.80920'E	37°53.06770'S



Figure 3: Location of Dredged Material Grounds for TSHD

The use of the *Tommy Norton* TSHD will comprise an ongoing annual program working 9-day fortnights during daylight hours and dredging mainly in the bar area. Dredging with the CSD *Kalimna* is generally confined to the inner channels and is carried out on a near-continuous basis, depending on the status of the channels as a result of dynamic oceanic and weather conditions.

Ocean conditions at Lakes Entrance are dynamic, and there may be a need at any time for maintenance dredging to ensure safe vessel access between the Gippsland Lakes and Bass Strait.

No dredging is allowed within the Rigby Island Buffer zone (as shown in Figure 4) between October and March inclusive due to presence of Little Terns and Fairy Terns during their breeding season. It is noted that the dredge design channel is outside of this buffer zone. Dredged material may be placed on Rigby Island, Boole Poole or Long Island with approval from relevant land managers in order to maintain a suitable environment for bird habitat and reduce vegetation losses associated with bank erosion.

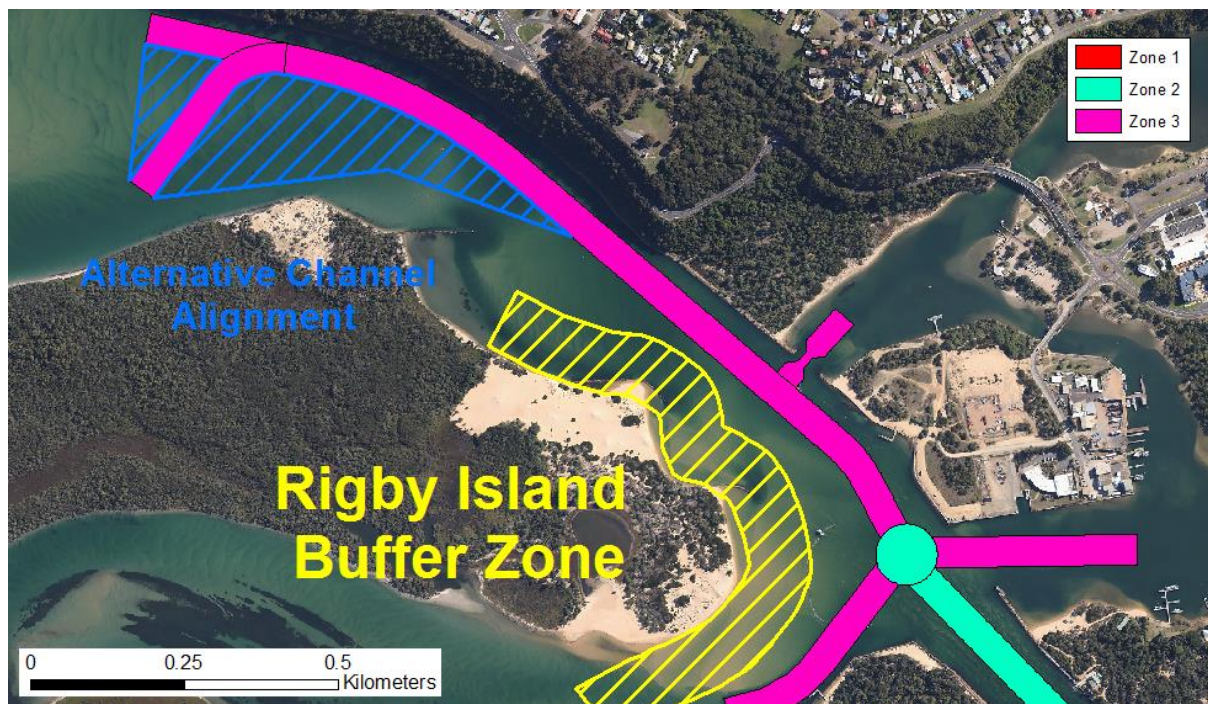
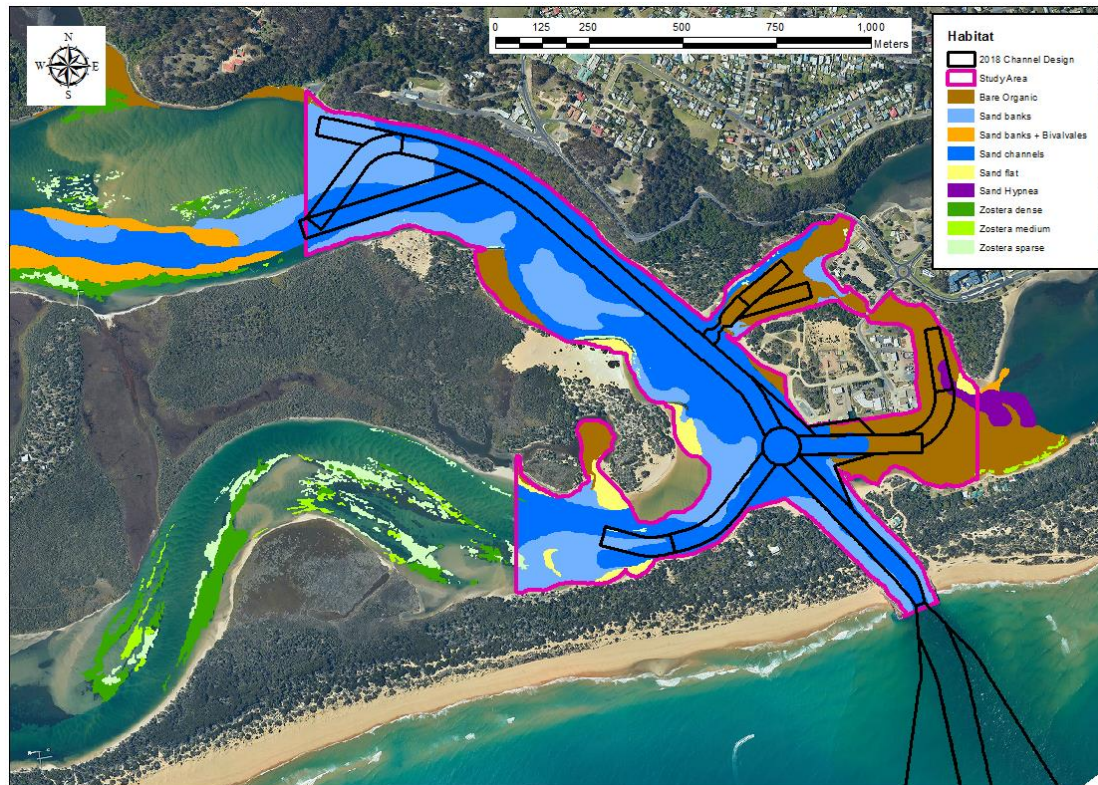


Figure 4: Rigby Island Buffer Zone



1.3 Environmental Policy

The Gippsland Ports Environmental Policy provides the umbrella policy direction for the maintenance dredging program.

The overall environmental management of the Port of Gippsland Lakes is guided by Gippsland Ports' Safety and Environmental Management Plan (SEMP) which is prepared as part of Gippsland Ports' obligations under Part 6A of the Victorian Port Management Act 1995. Dredging activities at Lakes Entrance are specifically controlled by this Environmental Management Plan (EMP) which is periodically updated with the approval of regulatory agencies.

The Environmental Policy Statement is displayed in the workplace. Key requirements and responsibilities will be communicated via inductions or other training programs (refer to Section 2.8).

Gippsland Ports is committed to undertaking GLOA in an environmentally responsible manner and in accordance with its statutory approvals and this EMP.

1.4 Environmental Management Plan Overview

The implementation of the EMP is underpinned by the systems procedures of GP's integrated Safety Environmental Management Plan (SEMP), which is prepared consistent with Part 6A of the *Port Management Act 1995* (Vic.). The development of Gippsland Ports Risk Assessment Framework is based on the application of the following Australian-New Zealand and International Standards:

- ISO 31000-2009 Risk management – Principles and guidelines;
- AS/NZS 4801:2001 Occupational health and safety management systems – Specification with guidance for use;
- AS/NZS ISO14001:2004 Environmental management systems – Specification with guidance for use; and
- AS/NZS ISO14004:2004 Environmental management systems – General guidelines on principles, systems and supporting techniques.

This EMP has been prepared to fulfil the following objectives:

- To establish the processes and controls that will be implemented to ensure that GLOA activities are delivered with no greater risk or effects than those identified in the environmental risk assessment.
- To communicate environmental management requirements to the dredging contractor, who will be required to meet the requirements of this EMP, which will be adopted as the contract Dredge Environment Management Plan (DEMP)
- To embed environmental management requirements in the GLOA activities of Gippsland Ports.

2 Planning

2.1 Legal Requirements

Project approvals, legal requirements, and other relevant requirements such as guidelines and codes of practice have been identified.

Where legislation requires a specific management action or response, these requirements have been identified within the Project Delivery Standards (PDS) as environmental controls, environmental limits, environmental monitoring programs or within contingency plans. The content of a PDS is further described in Section 2.2. The GLOA PDS associated with key legislation are identified in Table 2.

Compliance with legal and other relevant requirements will be evaluated in accordance with the Internal / External Audit Procedure.

Table 2: Key legislation and associated GLOA PDS

Legislation	PDS
<i>Coastal Management Act 1995 (Vic)</i> <i>Marine and Coastal Act 2018 (Vic – which replaces the Coastal Management Act)</i> <i>Environment Protection Act 1970 (Vic)</i> <i>Environment Protection and Biodiversity Conservation Act 1999</i> <i>Environment Protection (Sea Dumping Act) 1981</i>	All GLOA PDS
<i>Wildlife Act 1975 (Vic)</i>	Marine based works Dredging and plume Dredged material management

2.2 GLOA Project Delivery Standards

GLOA Project Delivery Standards (PDS) have been identified for GLOA to address key environmental risks, effects and legal requirements. The GLOA PDS are a collation of the management and mitigation measures, environmental performance monitoring and contingency plans for the project. The GLOA PDS are:

- Hours of operation
- Airbourne noise
- Waste management
- Equipment maintenance
- Fuels, oils, chemicals and hazardous goods
- Emergency response preparedness
- Marine pests
- Vessel anchoring
- Vessel bunkering
- Cetaceans
- Heritage – identification of potential relics
- Dredging
- Dredging schedule
- Consideration of seasonal sensitivities
- Dredged material placement
- Placement site dissipation monitoring.

The PDS relevant to the GLOA are contained in Annexure 3 of this EMP.

The GLOA PDS include the following:

- An objective – the performance goal.
- A target – performance level at which the objective is demonstrated as being achieved.
- Application – the project activities and project areas to which the PDS applies.

- Environmental controls – management and mitigation measures required to support achievement of the objective during the implementation of the project. These include process controls and associated monitoring
- Reference to environmental or process limits – numerical performance standards which the project must comply with
- Reference to environmental or process monitoring programs – the monitoring programs applicable to the PDS.

2.3 External notification and reporting requirements

Performance against this EMP will be reported to government agencies and stakeholder groups as described in Table 3.

Table 3: External notification and reporting requirements

PDS	Subject	Reporting or notification	
		Government Agency / Stakeholder	Timeframe
18a	Pollution event or imminent environmental hazard (as defined in Environmental Auditor Guidelines for Conducting Environmental Audits, Publication 953.2, October 2007, EPA, Victoria)	EPA, DELWP, DEE, TfV	Immediate notification (Incident report required).
18b	Project Delivery Standard	DELWP, DEE	Notification within one (1) business day of verifying non-conformance with a PDS.
18c	TSHD program	DELWP, DEE	Notification within 14 days of commencement and completion of a TSHD program.
18d	Annual GLOA performance report	DELWP	Within 90 days of completion of all placement activities associated with a year-round TSHD program. A year finishes on 31 December. (Note: Independent Audit will audit this criteria based on submission of previous year's report).
18e	SDP annual compliance report	DEE	By 31 January annually, including on the day of the expiry of the permit or completion of all dredging under the permit, in required IMO format (or as approved by DEE) to facilitate annual reporting to IMO.
18f	SDP hydrographic survey	Australian Hydrographic Office (AHO)	For the bathymetric survey completed within one (1) month of completion of all placement activities authorised under the SDP, provide a digital copy of the bathymetric surveys within two (2) months.
18g	SDP hydrographic survey report	DEE	For the bathymetric survey completed within one (1) month of completion of all placement activities authorised under the SDP, provide a report within two (2) months including a chart showing the change in sea floor bathymetry as a result of placement and include written commentary on the volumes of placed material that appear to have been retained within the placement site.
18h	Annual reporting and continuous improvement planning	TACC, DELWP, DEE	Stakeholder awareness annually (typically), with outcome summary to DEE TACC agenda prior to meetings and minutes following meetings detailing issues together with proposed actions, accountability, timelines and outcomes.

2.4 Risk Management

Environmental risks associated with GLOA have been identified and assessed consistent with the Australian/New Zealand Standard: Risk Management (AS/NZS 4360:2004; Standards Australia and Standards New Zealand 2004) and the Standards Australia Handbook: Environmental risk management - principles and process (HB 203-2000; Standards Australia and Standards New Zealand 2006).

Environmental risks are detailed in the GLOA Environmental Risk Register.

2.5 Organisational structure and responsibility

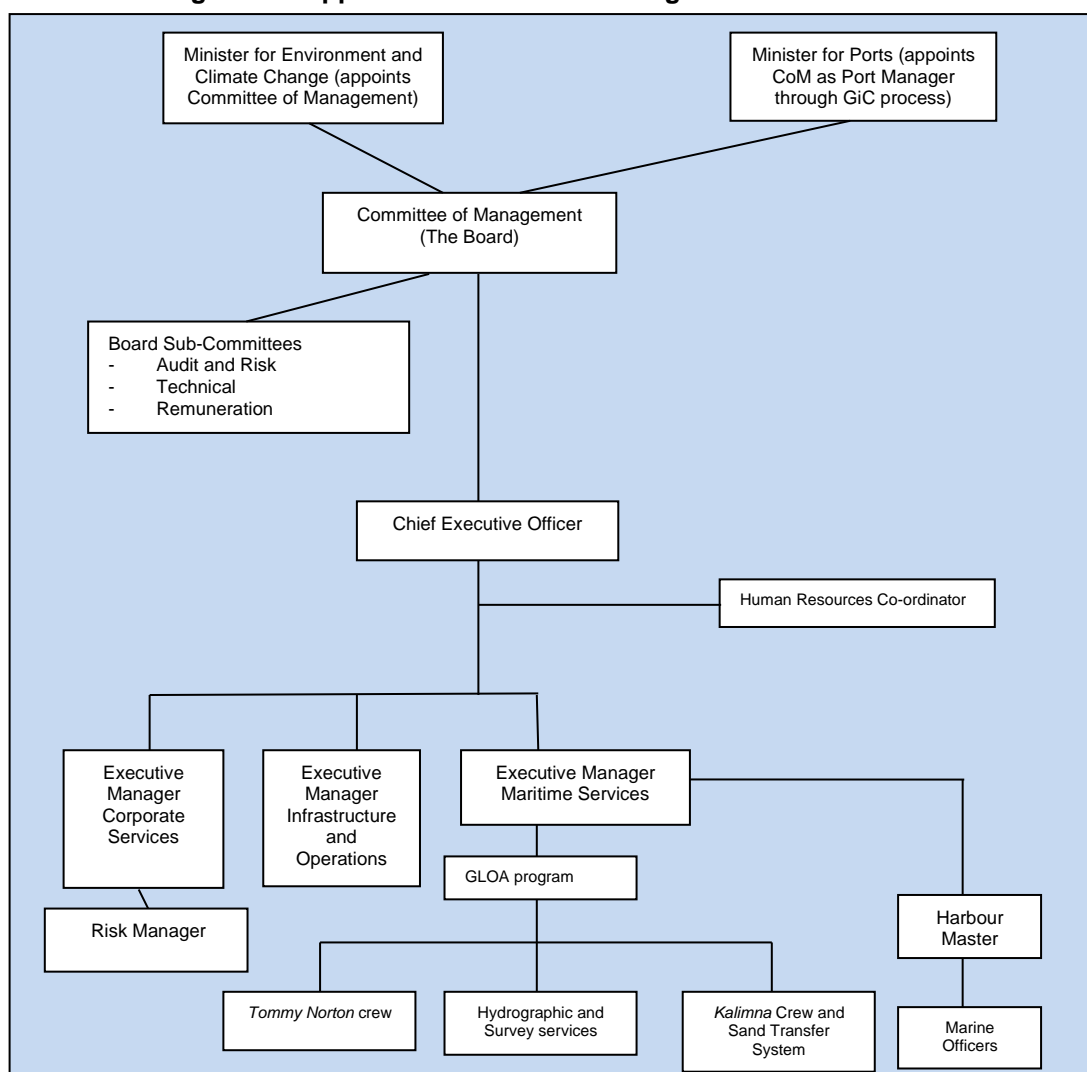
Gippsland Ports has overall responsibility for the implementation of GLOA activities in accordance with the requirements of this EMP.

The CEO or nominated delegate is accountable for:

- Implementing the EMP.
- Co-ordinating all activities relating to the EMP.
- Communicating responsibilities to contractors.
- Providing adequate resources to undertake GLOA in accordance with the EMP.

Responsibility for implementing the EMP will be delegated by the Gippsland Ports CEO through the executive management team to the work force. All levels within the management structure have duties and responsibilities associated with implementing the EMP. Specific operational responsibilities for implementing the EMP will be identified in GP internal procedures, and are outlined in Figure 5 which illustrates line management responsibility for GLOA activities lies with the Executive Manager Maritime Services (EMMS) position.

Figure 5: Gippsland Ports indicative organisational structure



2.6 Document and record control

Environment documents and records will be managed in accordance with Gippsland Ports' Safety and Environmental Document Control and Safety and Environmental Records procedures.

2.7 Gippsland Ports' change management arrangements

Proposed changes to the project will be assessed and documented following Gippsland Ports' established procedures encapsulated in Gippsland Ports' Safety and Environmental Document Control and Safety and Environmental Records procedures.

2.8 Training and awareness

All personnel shall be suitably qualified and experienced to undertake their work in an environmentally responsible manner. Personnel who have formal responsibilities under this plan will be trained in the requirements of this EMP.

Training may include formal courses, staff meetings, tool box talks, and ongoing awareness mentoring in the field. Records of training and inductions will be maintained.

Training requirements will include relevant personnel to be trained in identification of cetaceans (whales, dolphins), and threatened bird species (for example, hooded plover, little tern), and relevant protocols for working in proximity to these species.

All personnel involved in GLOA activities will be required to complete a site induction which will incorporate key environmental aspects of the project. All personnel will be required to complete an assessment to demonstrate an understanding of key issues, requirements and responsibilities.

Induction topics will include the following:

- GP Environmental Policy
- Legislative requirements and key environmental issues
- Safety management procedures
- Emergency response
- Vessel crew changes
- Incident reporting
- Waste management
- Cetacean and other threatened species requirements
- Individual and organisational responsibilities
- Communication requirements
- Consequence of compliance failures, with particular emphasis on EMP undertakings.

2.9 Communication

Internal and external communication and consultation arrangements are described below. The CEO and EMMS will be responsible for and undertake all requirements with respect to community liaison.

2.9.1 Internal communication

Internal communication methods include meeting agendas and notices distributed by email.

Toolbox meetings are held by EMMS with the Tommy Norton and Kalimna crews. Environmental matters will be included as a standing agenda item at all meetings.

2.9.2 External communication

A variety of methods will be used to enable information to be distributed to, and received from, interested members of the community and GLOA stakeholders, see Gippsland Lakes Ocean Access Stakeholder Engagement Plan.

These may include the following:

- GP website (www.gippslandports.vic.gov.au)
- Broadcast email
- Media releases
- Newspaper advertisements
- Direct verbal or written advice (one or more of telephone, post or email)
- Notices to Mariners.

The provision of information to GLOA users of non-English speaking origin, if requested, will be consistent with current State Government of Victoria protocol for the translation and distribution of communications in languages other than English.

Key communication activities and content include the following:

- GLOA scheduled activities to be included on the GP website covering planned operational activities.
- All Feedback and complaints regarding dredging will receive a response within one (1) business day. Complaints will be managed following the process described in Annexure 5 and resolved as soon as practicable.
- Engage various stakeholder groups every year (typically) through a formal TACC meeting.

Key stakeholders include:

- local, state and federal government bodies;
- recreational, business and commercial users and industry representatives
- indigenous and heritage groups;
- local resident groups;
- environmental interest groups.

2.10 Emergency preparedness, response and recovery

Emergency scenarios are identified in the GLOA Environmental Risk Register.

GP have statutory responsibility for Emergency Response in the Gippsland Lakes. The Gippsland Ports Emergency Response Procedure will be reviewed for consistency with GLOA activities and risks.

Following an emergency incident, an investigation will be conducted and corrective actions identified and addressed.

3 Measurement and evaluation

3.1 Incident reporting and investigation

Environmental incidents and hazards, including pollution incidents will be reported and recorded. This requirement will be included in inductions and reinforced at operational meetings.

Gippsland Ports has an Incident / Hazard Reporting procedure (refer to Annexure 2). Once complete the report must be actioned and the details entered into the Incident Register and kept on file for a minimum of 7 years. Incident / Hazard Reports and the Incident Register are considered as part of the quarterly Environment Health and Safety Committee agenda, and is reported monthly to the Gippsland Ports Board.

External reporting requirements in relation to hazards and incidents are identified in Table 3.

3.2 Audits

Audits will be undertaken to monitor compliance with the GLOA EMP and all approval conditions. Improvement opportunities may also be identified during audits.

Auditing of Gippsland Ports' SEMP is documented in Safety and Environment Audit Procedures and Safety and Environment Audit program. These procedures require biannual internal auditing and triennial external certification audits. Gippsland Ports will establish an annual audit procedure to ensure that the GLOA EMP is embedded in the operational context, and will align the EMP and the SEMP, as it is reviewed in accordance of provisions in the Port Management Amendment Act 2012

Conformance with this EMP and all approval conditions will be assessed through observation of GLOA activities, interviews and review of records. Records may include the following:

1. Inspection reports;
2. Dredge and STS record sheets;
3. Hydrographic surveys;
4. Recorded data from the GPS tracking data.

GP implementation of the EMP will be audited annually using an external auditor engaged by Gippsland Ports, with this audit coinciding with the use of the TSHD.

3.3 Monitoring of environmental performance

Environmental performance will be monitored through process monitoring, inspections and surveys. Monitoring of operational activities and physical conditions (eg. tracking equipment and hydrographic survey and weather station). Process monitoring, inspections and surveys are identified in PDS alongside process controls. Monitoring data informs any additional management action that may be required.

In addition to monitoring undertaken by Gippsland Ports, results of monitoring undertaken by other Agencies that are provided will be collated and form part of the auditing and reporting process.

3.4 Timing contingency for monitoring activities

Operational monitoring and inspections (including surveys) will be scheduled but timing of the execution of these activities will take into account safety issues and vessel workability.

4 Review and Reporting

4.1 Maintenance dredging program management review and report

A review of the EMP and environmental performance will be undertaken by senior management annually.

The review will include:

- Compliance with PDS;
- Compliance with legal requirements including statutory approvals and other commitments;
- Results of inspections, surveys and audits.

An annual GLOA performance report will be prepared following the management review. The annual GLOA report will contain a summary of GLOA outcomes for the previous 12 month period including:

- a summary of activities;
- volumes dredged, calculated from hydrographic survey results;
- volumes taken to DMGs, calculated from hydrographic survey results;
- conformance with PDS;

- stakeholder engagement.

The annual GLOA performance report will be provided to DSE within 90 days following completion of the year-round dredging program on 30 December

Gippsland Ports maintains a Safety and Environmental Review procedure, and review of this EMP will be incorporated into this existing procedure once this EMP is embedded operationally to the satisfaction of Gippsland Ports management.

Annexure 1 - Environmental Policy



3.1 ENVIRONMENTAL POLICY

Policy Number: 3.1

Date of Current Issue: 22 February 2018 Date of Next Review: 22 February 2021

Policy Scope: This policy applies to all Gippsland Ports' employees, contractors, customers, visitors and the general public. The policy applies to all activities associated with Gippsland Ports' functions and includes GP interests and involvement in wider regional environmental management.

Policy Purpose: This policy will inform and guide Gippsland Ports in the management of environmental impacts associated with work practices, operations and decision making involving management of Gippsland Ports' managed ports, waterways and related assets.

The Environment Policy is a statement of Gippsland Ports' intentions and principles in relation to its overall environmental performance and provides guidance for action and the setting of environmental objectives and targets.

Policy: Gippsland Ports recognises that the environmental health of our ports and waterways has a direct impact on the health and wellbeing of Gippslanders. We are therefore committed to minimising the environmental impacts of our operations and adapting to changes in the environment.

Gippsland Ports is committed to operating in accordance with relevant environmental legislation in a manner that includes and respects environmental values and sustainability for the benefit of present and future generations.

We will aim to go beyond our legislative obligations in order to ensure, where opportunities exist, best practice environmental management is implemented. We will engage with key agencies and stakeholders to respond to environmental matters of mutual interest and support regional environmental management initiatives.

Through the setting of targets and monitoring the port and waterway environment, Gippsland Ports will aim to ensure that our ports and waterways natural environments are not adversely impacted. In our everyday operations we will implement waste management strategies that will encourage energy reduction, reuse and recycling.

The training of our personnel, provision of information to our contractors, customers, visitors and the general public will lead to the development of improved and sustainable environmental practices. We will identify where GP actions may lead to environmental impacts and implement programs to eliminate, or where elimination is not possible, reduce to the practicable minimum, the effects of such actions.

Related Processes: The following documents, policies and procedures are related to this policy:

- Gippsland Ports Environmental Policy statement (Attached) Safety and Environmental Management Plans
- Gippsland Ports Environmental, Health & Safety Management MAINSTAY Program


Related Legislation: Environment Protection Act (Vic) 1970
Pollution of Waters by Oils and Noxious Substances Act 1986 (POWSONS)

Date Adopted 28 August 2012

Date Reviewed & Endorsed Date Reviewed and Endorsed: 22 February 2018

Next Review Date 22 February 2021

Annexure 2 – Incident / Hazard Report

		INCIDENT/HAZARD REPORT		Number: <input type="text"/> <small>(Once Use Only)</small>	SHS 204-3-00-01
<small>Use this form to report a current or potential hazardous situation, risk, event or near miss or any incident that has the potential to affect staff, public, customers, equipment, property or the environment. If in doubt, complete this report. Provide to the Risk & Compliance Manager within 48 hours. Provide any additional details over page.</small>					
PART 1 - INFORM				IMPORTANT: Download form and save before making entries.	
A. Incident/ Hazard Location Date & Time			Incident/hazard		
Site & Location: <input type="text"/>			Date: <input type="text"/>		Time: <input type="text"/>
Person Completing form: <input type="text"/>			Date: <input type="text"/>		
Manager/rep advised - Date: <input type="text"/>		Time: <input type="text"/>	HSR advised- Date: <input type="text"/>		Time: <input type="text"/>
B. Person(s) Involved/Injured/ witnesses <small>(note any additional persons next page.)</small> <small>CONFIDENTIAL- section below when filled.</small>					
Names	Employee/Other <small>(Note 1)</small>	Role <small>(Note 2)</small>	Injury -nature & bodily location <small>(as applicable)</small>		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>		
<small>Note 1: Employee OR GP Contractor OR Independent Contractor OR Public Note 2- Role: Witness OR First Aider OR Injured</small>					
C. Activity & Incident/ Hazard <small>(describe - include names of any vehicles/plant involved)</small>					
<input type="text"/>					
Forward to Manager & RCM (or delegate) by email for further advice on followup. <small>Provide any additional details at next page.</small>					
PART 2 - FOLLOWUP					
D. Investigation findings & recommendations <small>(to prevent recurrence)</small>					
<input type="text"/>					
E. Manager/ Supervisor comments					
<input type="text"/>					
Manager name: <input type="text"/>		Signature/ Acknowledge ref: <input type="text"/>		Date: <input type="text"/>	
F. RCM Action/ Comments - Entered at register Date: <input type="text"/> Time: <input type="text"/>					
Finalised copy provided to originator, supervisor & HSR Date: <input type="text"/> Time: <input type="text"/>					
<input type="text"/>					
RCM/ rep name: <input type="text"/>		Signature: <input type="text"/>		Date: <input type="text"/>	
<small>Revision 4.0, 11/5/12</small>					

G. Incident/ Hazard Report - additional details:

Number:
(Office Use Only)

Images/ Photos/ Diagrams:

Description:

Description:

Description:

Description:

Annexure 3 - Project Delivery Standards

Table 4: Operational management (all activities and areas) PDS

Operational management (all activities)	
Objective	To plan and implement operational aspects of GLOA. To ensure materials are appropriately stored, handled and disposed of.
Target	Conformance with all environmental limits and controls.
Application	Throughout all GLOA operational activities and areas.
Environmental controls	Operational phase
1. Hours of operation a) All activities may be conducted on a 24 hour, 7 days a week basis, except where explicitly restricted within this EMP, or by legislation.	Operation
2. Airbourne noise a) Airbourne noise monitoring will be conducted if and when stakeholder feedback and/or complaints received indicate equipment used in facilitating GLOA is resulting in non-compliance. Note: GP has operated equipment in the same locations over decades resulting in one complaint which was resolved by amending an operating procedure requiring door closure at the STS pump station. b) Noise monitoring will be conducted in accordance with the procedure outlined in Annexure 4 which references 'Noise from Industry in Regional Victoria' (EPA Pub. No.1411 and 'Control of Noise from Commerce, Industry and Trade' (SEPP N-1).	Maintenance and operation
3. Waste management a) All marine vessels to have sewage containment facilities. b) No disposal of untreated sewage or other waste to waterway. c) Contractor waste management arrangements to include waste minimization, containment, segregation and appropriate reuse, recycling, treatment and disposal. d) The handling and disposal of unexpected materials identified during dredging (eg. Inert debris such as steel sections and timber) to be included in waste management arrangements. e) All waste to be managed in accordance with: <ul style="list-style-type: none"> o <i>Environment Protection Act 1970 (Vic)</i> o <i>Quarantine Act 1908 (Commonwealth)</i> for applicable vessels o <i>Pollution of Waters by Oil and Noxious Substances Act 1986 (Vic)</i> 	Maintenance and operation
4. Equipment maintenance a) Maintenance programs will be implemented for all plant and equipment as defined in GP's procedures and the <i>Occupational Health and Safety Regulations 2007 (Vic)</i> .	Maintenance and operation
5. Fuels, oils, chemicals and hazardous goods a) Storage and handling of chemicals in accordance with: <ul style="list-style-type: none"> o <i>Dangerous Goods Act 1985 (Vic)</i> o <i>International Ship Management (ISM) Code</i> for applicable vessels o <i>Pollution of Waters by Oil and Noxious Substances Act 1986 (Vic)</i> b) Asbestos audits indicate that no asbestos is present in any GLOA infrastructure, however, should asbestos be found, it will be managed in accordance with the <ul style="list-style-type: none"> o <i>Occupational Health and Safety Regulations 2007 (Vic)</i>. 	Maintenance and operation

6. Emergency response preparedness a) Development and testing of emergency response procedures, integrated with the GP EMP, including provision for fuel, oil and chemical spills. b) All dredging vessels to have oil spill response kits on board. Relevant personnel to be trained in its use.		Maintenance and operation
Environmental limit Airborne noise	Environmental monitoring program Airborne noise	
Contingencies	Airborne Noise Contingency Plan Emergency response managed by GP Emergency Response Plan.	

Table 5: Marine-based works (all areas) PDS

Operational management (all activities)	
Objective	<p>To appropriately manage marine-based works.</p> <p>To minimise disturbance to and appropriately manage non-Aboriginal heritage.</p> <p>To minimise impacts on cetaceans due to vessel maneuvering.</p>
Target	Conformance with all environmental limits and controls.
Application	All marine-based GLOA activities.
Environmental controls	Operational phase
7. Marine pests <p>a) Marine pest inspection and certification of contract dredge and support vessel is required before mobilisation to Gippsland Lakes, where these are sourced from outside Gippsland Lakes. Certification must be received from the final port of call, before entry to the Gippsland Lakes.</p> <p>b) All vessels to comply with <i>Protocol for Environmental Management – Domestic Ballast Water Management in Victorian State Waters</i>, EPA Publication 949.3 (July 2010).</p> <p>c) All vessels to comply with <i>Australian Ballast Water Management Requirements</i>, DAFF (version 5, November 2011).</p>	Pre-arrival at Gippsland Lakes
8. Vessel anchoring <p>a) Vessels to anchor or berth in accordance with Gippsland Ports Harbour Master's instructions.</p>	Maintenance and operation
9. Vessel bunkering <p>a) All bunkering to take place in accordance with conditions stated in Gippsland Ports' issued Fuelling Permit and approved vessel bunkering procedures.</p>	Maintenance and operation
10. Cetaceans – vessel activities <p>a) Before beginning dredging and placement activities, check using binoculars, from a high observation platform on the vessel, for cetaceans within the 300m monitoring zone</p> <p>b) Dredging can only commence if no cetaceans have been observed within 300m of the vessel. If any cetaceans are sighted in the monitoring zone, dredging/ placement activities must not commence in the monitoring zone until 20 minutes after the last cetacean is observed to leave the monitoring zone or the vessel is to move to another area of the dredge/ placement site to maintain a minimum distance of 300 metres between the vessel and any cetacean identified above. <i>Note:</i> Monitoring zone means the area within 300 metres of the vessel at any point on the dredging/ placement run.</p>	Operation
11. Cetacean sightings and log <p>a) Personnel on board vessels are to report all sightings of cetaceans.</p> <p>b) A log of cetacean sightings and action taken to be kept for all vessels and operational work areas, and recorded on dredge daily log sheets.</p> <p>c) This information to be summarised in annual GLOA performance report.</p>	Operation Annual Report
12. Heritage (marine based) – identification of potential relics <p>a) If potential relics are identified during operational activities, the process described in Annexure 5 will be followed.</p>	Operation

Environmental limit Not applicable to this PDS	Environmental monitoring program Not applicable
Contingencies	Not applicable

Table 6: Dredging and plume PDS

Dredging and plume																											
Objective	<p>To appropriately manage dredging activities and sediments.</p> <p>To minimize the area of channel and seabed disturbed and appropriately manage the material removed.</p> <p>To protect assets, beneficial uses and values from long-term adverse effects to dredging-related water quality effects.</p>																										
Target	Conformance with all environmental limits and controls.																										
Application	<p>All dredging activities.</p> <p>The placement of dredged material at the DMGs and breaker-zone points.</p> <p>Use of dredges and associated equipment.</p>																										
Environmental controls			Operational phase																								
13. Dredging <p>a) Dredging must remain within the identified dredging zones, and will be confirmed by recorded GPS data. Note: Dredging equipment and associated support vessels will maneuver outside dredge areas, including transit from mooring locations.</p> <p>Turbidity</p> <p>b) The overflow valve of the TSHD must be closed when the vessel is not engaged in dredging.</p> <p>c) During the period of September to January (grayling migration period) plume caused by dredging activities, i.e. the 'Dredge effect', must not exceed 25NTU, at a distance of 50m from the vessel, across the channel in accordance with the TSHD Turbidity Monitoring Protocol. Note: the 'Dredge effect' is calculated by subtracting the minimum turbidity value of the ten Reference readings (five stations with two depths) from the maximum turbidity value of the ten Test readings (five stations with two depths).</p> <p>d) During the grayling migration period (September to January), the dredge will not operate in overflow mode between the training walls on a flood tide.</p> <p>e) Recording of equipment activity on dredge log sheets will include the following information as a minimum:</p> <table border="1"> <thead> <tr> <th>Equipment</th><th>Time / Date / Weather</th><th>Location / Co-ordinates</th><th>Status</th></tr> </thead> <tbody> <tr> <td>TSHD (contract dredge)</td><td>✓</td><td>Management of sand from Sailing and placement of sand to</td><td>Dredging / sailing / placement at DMG / maintenance</td></tr> <tr> <td>CSD (GP dredge)</td><td>✓</td><td>Management of sand from</td><td>Dredging / sailing / east or west discharge point</td></tr> <tr> <td>Other (sand shifters, bulldozer, etc)</td><td>✓</td><td>Management of sand from</td><td>Reason for use of equipment other than dredge.</td></tr> <tr> <td>DMG</td><td>✓</td><td>N/A</td><td>East / West</td></tr> <tr> <td>DMG</td><td>✓</td><td>N/A</td><td>East / West</td></tr> </tbody> </table>			Equipment	Time / Date / Weather	Location / Co-ordinates	Status	TSHD (contract dredge)	✓	Management of sand from Sailing and placement of sand to	Dredging / sailing / placement at DMG / maintenance	CSD (GP dredge)	✓	Management of sand from	Dredging / sailing / east or west discharge point	Other (sand shifters, bulldozer, etc)	✓	Management of sand from	Reason for use of equipment other than dredge.	DMG	✓	N/A	East / West	DMG	✓	N/A	East / West	Operation
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TSHD (contract dredge)	✓	Management of sand from Sailing and placement of sand to	Dredging / sailing / placement at DMG / maintenance																								
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DMG	✓	N/A	East / West																								
DMG	✓	N/A	East / West																								
Environmental limit	Environmental monitoring program																										
Plume Turbidity	Plume Turbidity Monitoring – refer to Turbidity Monitoring Protocol																										
Contingencies	Not applicable																										

Table 7: Dredging schedule PDS

Dredging schedule		
Objective	To develop an appropriate dredging schedule, taking into account the seasonal sensitivities of the Gippsland Lakes' assets, beneficial uses and values.	
Target	Conformance with all environmental limits and controls.	
Application	All dredging activities.	
Environmental controls		Operational phase
14. Dredging schedule a) Dredging to take place in accordance with Table 10: Dredging Summary. b) No dredging is allowed within the Rigby Island Buffer zone (as shown in Figure 4) between October and March inclusive. It is noted that dredge design channel is outside of this buffer zone. c) Dredging schedule to include: <ul style="list-style-type: none"> ○ Dredging technology. ○ Timing, duration and sequence of dredging. 		Planning
15. Consideration of seasonal sensitivities a) Dredging activities planned with a particular awareness and regard for high recreational use periods (Easter, Summer holidays, long weekends) as set out in Table 11 – Key seasonal sensitivities and preferred seasons.		Planning
Environmental limit	Environmental monitoring program	
Not applicable to this PDS	Not applicable	
Contingencies	Not applicable	

Table 8: Dredged material management PDS

Dredged material management		
Objective	<p>To manage and track the placement of dredged material.</p> <p>To relocate dredged material and manage dredged material appropriately within the DMGs and near-shore points.</p>	
Target	Conformance with all environmental limits and controls.	
Application	All dredged material placement and DMG management.	
Environmental controls		Operational phase
16. Dredged material placement <p>a) Dredged material must only be placed within the Western and Eastern placement sites defined by the MGA 94 coordinates in Table 1: Coordinates for Dredged Material Grounds for TSHD.</p> <p>b) Each load of dredged material is placed so that the dredged material is placed in the inshore areas of the defined placement sites, consistent with safety, navigation and vessel handling requirements.</p> <p>c) Dredged material must be placed along a different alignment for each placement cycle.</p> <p>d) Prior to placement, establish by GPS that the vessel is within one of the defined placement sites.</p> <p>e) Dredging placement locations to be recorded as per recording of equipment (refer to Table 7 – Dredging and plume PDS).</p> <p>f) Volumes are to be calculated from hydrographic survey data.</p>		Operation
17. Placement site dissipation monitoring <p>a) DMGs - Hydrographic surveys will be required as follows:</p> <ul style="list-style-type: none"> ○ Before each (typically annual) TSHD program – within one month of the scheduled commencement of dredging ○ After each (typically annual) TSHD program – within one month of the completion of all placement activities authorised under the sea dumping permit. ○ The results of hydrographic surveys will be included in the annual GLOA performance report. <p>b) Near-shore discharge:</p> <ul style="list-style-type: none"> ○ After noted changes to beach or infrastructure on the beach (from storms, etc) photographic records taken at low and high tides ○ Annual – geo-referenced aerial photographs. 		Operation Reporting
Environmental limit	Environmental monitoring program	
Not applicable to this PDS	Not applicable	
Contingencies	Not applicable	

Table 9: Dredging Summary

Location (see Figure below)	Dimensions for navigation reliability (metres)		Dredging Target ² (metres)		Over Dredging Tolerance ³ (metres)	
	Width ¹	Depth	Width	Depth	Width	Depth
Bar/Wedge	80 to 450	3.5	80	5.5	± 5m	-1.0
Sand traps (Wedge) ⁶	n/a	n/a	35	8.5	± 5m	-1.0
Entrance Channel	50	3.5	50	4.5	±2m	-1.0
Swing Basin (diameter)	100	3.5	100	4.5	±2m	-1.0
Cunninghame Arm ⁴	50	3.5	50	4.5	±2m	-1.0
The Narrows	50	3	50	4	±2m	-1.0
Hopetoun Channel	50	3	50	4	±2m	-1.0

Notes:

All depths are measured from 'Chart Datum' (0.757m below Australia Height Datum).

1 – 80m width just beyond the seaward end of the training wall and 450m is the maximum width of the wedge.

2 – Dredging Target allows for accretion of sand during non-dredging interval

3 – Over Dredging Tolerance (includes survey tolerance) – allowance for slumping and settlement immediately after dredging

4 – The western end of Cunninghame Arm is dredged to allow safe navigation to unloading facilities for trawlers at Bullock Island and berthing of TSHD *Tommy Norton*.

5 – Two sand traps up to 220m length and 35m width can be dredged if required on both western and eastern boundary of wedge. Exact location dependent on location of Bar formation. Refer indicative locations in Figure below.

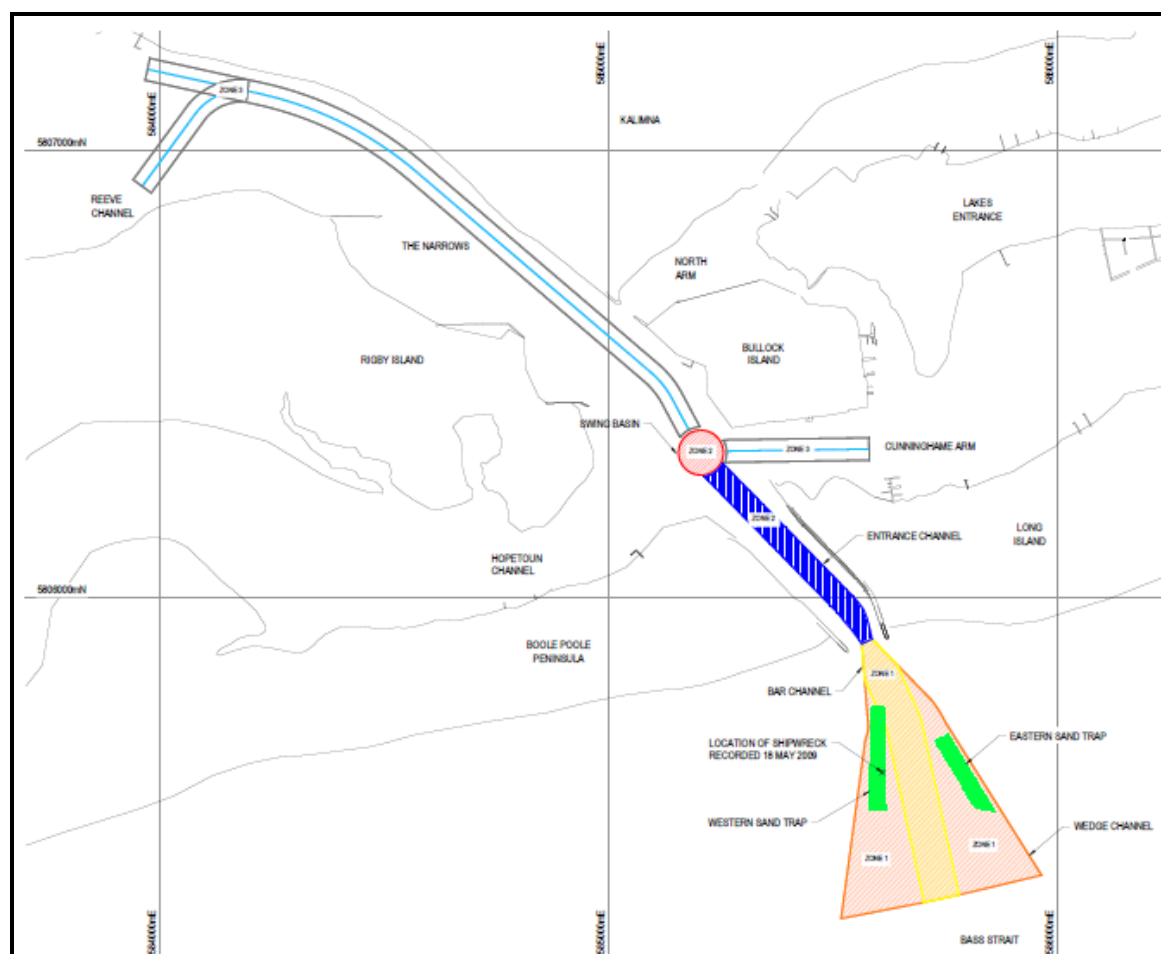


Table 10: Key seasonal sensitivities and preferred seasons

Project area	Key seasonal sensitivities	Preferred seasons
Seaward of Entrance: Bar channel, wedge, wedge channel	High recreational use over summer / public holiday periods. Occasional whale sightings during migration.	April, May, June and July are ranked as the most referred months for dredging to occur due to historically relatively benign weather conditions. Spring is considered least preferred due to weather conditions.
Inner channels	High recreational use over summer / public holiday periods. Proximity to potential nesting locations of Little Tern – no dredging within buffer between October to March inclusive.	Due to sheltered location there is no preferred season due to weather conditions. No dredging occurs within the adopted Rigby Island buffer zone during October to March.
Inner channels	September to January inclusive <i>Australian Grayling</i> migration.	Turbidity will be managed in accordance with the Turbidity Monitoring Protocol

Note: Since 2017, Gippsland Ports has undertaken year-round maintenance dredging with the TSHD *Tommy Norton*. Key seasonal sensitivities outlined in Table 11 above are still considered when planning annual dredging program and associated monitoring requirements.

Annexure 4 - Monitoring Programs & Contingency Plans

AIRBOURNE NOISE

Context

This environmental monitoring program relates to airborne noise resulting from GLOA activities, and will be activated if stakeholder feedback and/or complaints received indicate equipment used in facilitating GLOA is resulting in non-compliance.

Note: Gippsland Ports has operated equipment in the same locations over decades resulting in one complaint which was resolved by amending an operating procedure requiring door closure at a shed.

Environmental monitoring program

The main aspect of this environmental monitoring program is the use of the standard indicator for airborne noise measurement of “A” weighted equivalent noise level (L_{aeq}) measured in decibels (dB) – as is used within SEPP (Control of Noise from Commerce, Industry and Trade) No.N-1 (SEPP N-1). Noise from Industry in Regional Victoria’ (EPA Pub. No.1411) will also be referenced.

Monitoring location(s) will be informed by the feedback and/or complaints received. Monitoring will occur during normal operational activities occurring at the time feedback and/or complaint was received.

Monitoring to confirm SEPP N-1 conformance will be carried out over 3 consecutive days and reflect the time the feedback and/or complaint was received.

Monitoring will be weather dependent and include consideration of wind conditions that provide for a representative sample of noise at the monitoring location with regard to wind velocity and direction including preference to monitor during a “down wind” scenario where practicable. If conditions are not considered appropriate to achieve a representative noise measurement, days may not be consecutive.

Results of the airborne noise monitoring will be compared against the calculated SEPP N-1 noise limits.

Environmental limit

The airborne noise environmental limit relates to the legislative requirements for noise under the SEPP N-1. The airborne noise environmental limit is based on calculated SEPP N-1 limits determined from sampled ambient noise levels at key locations. Table 11 shows the SEPP N-1 time period classification to which different limit levels apply.

Table 11: SEPP-N1 Time period classifications

SEPP N-1 time period classification	
Day	7am to 6pm weekdays 7am to 1pm Saturdays
Evening	6pm to 10pm weekdays 1pm to 6pm Saturdays 7am to 6pm Sundays 7am to 6pm Public holidays
Night	10pm to 7am weekdays 6pm to 7am weekends 6pm to 7am Public holidays

Airbourne noise contingency plan

This *Airbourne Noise Contingency Plan* relates to a potential or actual exceedance of the noise environmental limit from GLOA activities. Management Actions are provided in Table 13. Noise complaints will be managed via the compliant response process described in Annexure 5. For significant project changes refer to Gippsland Ports change management process.

Management actions

Table 12: Management actions - Airborne noise

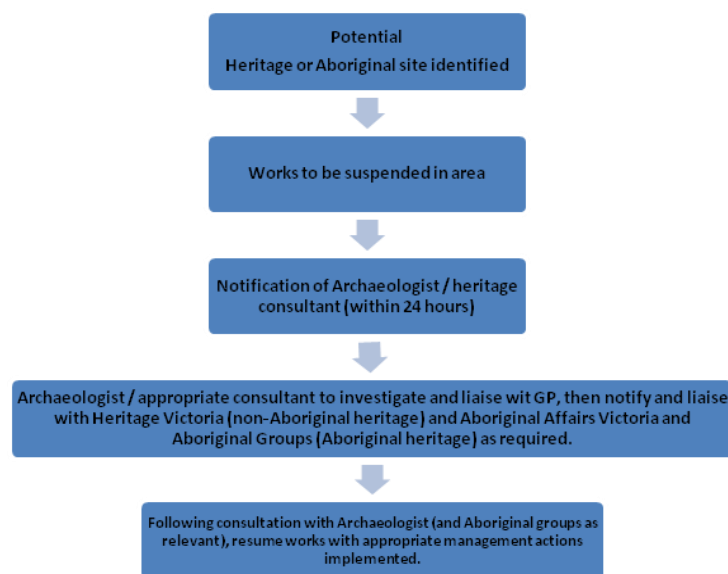
Management actions
<p>Management actions if activity does not meet / not likely to meet SEPP N-1:</p> <p>If noise monitoring results and/or complaints received indicate a possible exceedance of SEPP N-1, the following actions may be taken:</p> <ul style="list-style-type: none">➤ Implement alternate works program.➤ Modification to vessel / equipment.➤ Restrictions on use of the equipment.➤ Selection of alternative equipment.

Annexure 5 - Response Processes

Heritage (marine based) response process

This heritage (marine based) response process relates to the potential for previously unidentified heritage items or sites to be identified during GLOA activities. Refer to Figure 6 for response process flowchart.

Figure 6: Heritage (marine based) response process flowchart



Complaints response process

Refer to **Figure 7** for complaints response process flowchart and Table 15 for management actions.

Table 13: Management actions - complaints response

Management actions
<p>Management actions if a complaint is received:</p> <p>If a complaint is received, a general response will be given to the complainant within one (1) business day. The timeframe for a response to a complaint (aside from the initial response) is dependent on the nature of the complaint and the scale of the investigation (if required). It is expected that there will be management action within one (1) business day of the initial assessment of the complaint. The following options for action may be taken:</p> <ul style="list-style-type: none"> ➤ If the complaint is a single event then no monitoring may be required if cause cannot be determined. ➤ If there are a number of complaints relating to the same issue then monitoring will be considered as part of the investigation. <p>Where the assessment of vessels, equipment of activity indicates that it may not conform to relevant legislation, appropriate action to be taken. Management options include:</p> <ul style="list-style-type: none"> ➤ Selection of alternative vessel / equipment. ➤ Modification to vessel / equipment. ➤ Restrictions on use of vessel / equipment. ➤ Other actions as deemed appropriate.

Figure 7: Complaints response process flowchart

